Supplemental Material

Association of Osteoarthritis with Perfluorooctanoate and Perfluorooctane Sulfonate in NHANES 2003–2008

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Table S1. Weighted Associations[a] Between PFOA and PFOS Exposure and Self-Reported Osteoarthritis in United States Adults Aged 20-84, Stratified by Obesity Status[b]

Exposure	PFOA		PFOS	
	Obese	*Non-Obese*	*Obese*	*Non-Obese*
Q1	Reference	Reference	Reference	Reference
Q2	1.62 (0.82-3.22)	1.17 (0.57-2.41)	1.08 (0.56-2.06)	0.91 (0.38-2.21)
Q3	1.51 (0.75-3.04)	0.99 (0.53-1.85)	1.59 (0.64-3.94)	2.02* (1.05-3.89)
Q4	2.72** (1.48-5.03)	1.02 (0.62-1.70)	2.60* (1.18-5.73)	1.30 (0.63-2.71)
Log(PFOA/S)	1.62** (1.22-2.15)	0.96 (0.74-1.25)	1.30 (0.96-1.76)	1.06 (0.81-1.38)

[a] Fully adjusted odds ratios (95% confidence intervals). Adjusted for: age (continuous), race/ethnicity (non-Hispanic White, non-Hispanic Black, Mexican American, other race / multi-ethnic), socioeconomic status (poverty-income ratio, continuous), smoking (never, former, current), body mass endex (continuous), vigorous recreational activity (yes/no), and prior hip, wrist, or spine fracture (yes/no). Results are provided comparing exposure in each quartile to the first quartile, and separate results using exposure as a continuous variable.

[b] Obese n = 1,277; non-obese n = 2,532

** p<0.01, * p<0.05

Table S2. Weighted Associations[a] Between PFOA and PFOS Exposure and Self-Reported Osteoarthritis in United States Adults, Stratified by Age and Gender[b]

Exposure	PFOA		PFOS	
Females				
Q2	2.71 (0.93, 7.91)	0.99 (0.54, 1.84)	0.65 (0.19, 2.20)	1.05 (0.46, 2.41)
Q3	1.52 (0.36, 6.39)	0.95 (0.51, 1.75)	1.11 (0.29, 4.30)	1.95 (0.85, 4.48)
Q4	4.95* (1.27, 19.4)	1.33 (0.82, 1.16)	4.99** (1.61, 15.4)	1.30 (0.65, 2.60)
Log(PFOA/S)	2.23 (0.81, 6.12)	1.15 (0.85, 1.57)	2.37** (1.35, 4.16)	1.05 (0.79, 1.40)
Males				
Q2	1.36 (0.22, 8.41)	0.84 (0.33, 2.13)	(n/a)	1.28 (0.33, 3.89)
Q3	0.66 (0.10, 4.33)	1.21 (0.58, 2.54)	(n/a)	1.11 (0.31, 3.98)
Q4	0.78 (0.17, 3.72)	0.87 (0.42, 1.78)	(n/a)	1.20 (0.36, 3.94)
Log(PFOA/S)	0.70 (0.34, 1.43)	0.99 (0.75, 1.30)	0.92 (0.51, 1.66)	0.96 (0.69, 1.33)
All				
Q2	2.36 (0.84, 6.58)	0.97 (0.57, 1.66)	1.10 (0.29, 4.11)	1.04 (0.53, 2.08)
Q3	1.30 (0.34, 5.04)	1.06 (0.63, 1.76)	2.69 (0.84, 8.61)	1.64 (0.87, 3.09)
Q4	2.18 (0.61, 7.82)	1.19 (0.78, 1.82)	3.76* (1.25, 11.4)	1.29 (0.71, 2.33)
Log(PFOA/S)	1.30 (0.63, 2.66)	1.11 (0.88, 1.39)	1.57 (0.96, 2.56)	1.11 (0.88, 1.39)

[a] Fully adjusted odds ratios (95% confidence intervals). Adjusted for: age (continuous), race/ethnicity (non-Hispanic White, non-Hispanic Black, Mexican American, other race / multi-ethnic), socioeconomic status (poverty-income ratio, continuous), smoking (never, former, current), body mass endex (continuous), vigorous recreational activity (yes/no), and prior hip, wrist, or spine fracture (yes/no). Results are provided comparing exposure in each quartile to the first quartile, and separate results using exposure as a continuous variable.

[b] Numbers of observations: Females: 20–49y n = 1,104, 50–84y n = 817; Males: 20–49y n = 1,010, 50–84y n = 878; All: 20–49y n = 2,114, 50–84y n = 1,695

** $p < 0.01$, * $p < 0.05$